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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/690,374 | 10/21/2003 | Robert Hughes Jones | 2137JB.45700 | 6554 |

7590 06/16/2004

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EXAMINER

MOSKOWITZ, NELSON

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

3663

DATE MAILED: 06/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|---|--|
| Office Action Summary | Application No. 10/690,374 | Applicant(s) JONES, ROBERT HUGHES | |
| | Examiner Nelson Moskowitz | Art Unit 3663 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>10/21/03</u> . | 6) <input type="checkbox"/> Other: ____. |

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1. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicants recitation of the prior art (Background of the Invention, paragraphs 3-6) when taken with Yuratich et al .

In determining obviousness, the following factual determinations are made:

- a. first, the scope and content of the prior art;
- b. second, the difference between the prior art and the pending claims.
- c. third, the level of skill of a person ordinary skill in this art; and
- d. fourth, whether other objective evidence may be present, which indicates obviousness or nonobviousness. See, e.g., *In re Dembiczak*, 175 F.3d 994, 998, 50 USPQ2d 1614, 1616 (Fed. Cir. 1999) (citing *Graham v. John Deere Co.*, 282 US 1, 17-18, USPQ 456, 466-67 (1966)).

Objective evidence includes long felt but unmet need for the claimed invention, failure of others to solve the problem addressed by the claimed invention, and not other factors. See, e.g., *Simmons Fastener Corp. v. Illinois Tool Works, Inc.*, 739 Fed. 1573, 1574-76, 22 USPQ 744, 745-47 (Fed. Cir. 1984).

a) In examining the scope and content of the prior art it is found that the prior art cited by Applicant knew of the microseismic monitor data multifrequency noise problem caused by DC cathodic protection currents. The prior art, furthermore, did not cure this problem.

b) Yuratich, however, teaches (see, inter alia, DETX 21 and 34) the use of an integrator which subtracts later sections of a signal from earlier sections of the same signal to bring signal

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noise to “be close or equal to zero”. This is said to be an improvement over conventional filtering.

Third, under *Deere* the level of ordinary skill in this art may be determined by the analysis of the Court as set forth in *Environmental Design Ltd. v. Union Oil Co.* 713 F.3d 693, 218 USPQ 865-69 (Fed. Cir. 1983) cert. denied, 464 U.S. (1984), where the court listed these factors relevant to the determination of the level of ordinary skill: type of problems encountered in the art, prior art solutions, rapidity of innovations, sophistication of technology, and educational level of the active worker in the field.

The types of problems encountered in the art involve seismic signals with problematic noise which masks desired data.

Innovation in this field has been very fast as can be seen from virtual birth of this field in the 1950s to its present highly complex and sophisticated status.

Prior art solutions include mathematical processing to remove signal noise. Skilled artisans generally have a college level education and over three (3) years of experience, as can be seen from published articles in the major journals in this field.

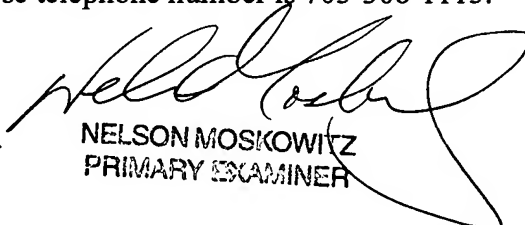
To date, no secondary consideration (objective evidence) has been presented.

Therefore, the use of the subtractive signal processing as a microseismic signal filter would have been obvious to one skilled in the art for the aforesaid reasons.

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2. References B-E (PTO-892) are cited to show prior art microseismic systems and noise filters. The references cited by Applicant (PTO-1449) have been considered and found to be cumulative to the art of record.
3. Applicant is required to correct the apparent typographical errors in page 1, paragraph 4, of the specification.
4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nelson Moskowitz whose telephone number is 703-306-4165. The examiner can normally be reached on Monday through Friday from 7:30 a.m. to 4:00 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Tarcza, can be reached on (703) 306-4171. The before final fax phone number for the organization where this application or proceeding is assigned is 703-872-9326. The after final fax phone number for the organization where this application or proceeding is assigned is 703-872-9327.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.


NELSON MOSKOWITZ
PRIMARY EXAMINER